



# Public Safety Communications Advisory Commission

## Standard

### Land Mobile Radio Minimum Equipment Standard

**Effective Date: XX/XX/20XX**

Distribution Statement: This is a public document. The Point of Contact (POC) for this document is the Public Safety Interoperable Communications (PSIC) Office in the Arizona Department of Administration – Arizona Strategic Enterprise Technology Office (ADOA-ASET). Current contact information for the PSIC Office can be found at [www.azpsic.gov](http://www.azpsic.gov).

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This document is reviewed annually. This document was last reviewed **xx/xx/2013**.

## Record of Changes

This Record of Changes is used to record revisions to this document, including a brief description of the changes made, the date the changes went into effect by approval of the PSCC, and the appropriate PSIC Office Contact.

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# 1 Introduction

## 1.1 Background

The Arizona Public Safety Communications Advisory Commission (PSCC) and Statewide Interoperability Executive Committee (SIEC) continually work to develop guidelines, recommendations and standards intended to promote public safety interoperable radio communications for all Arizona first responders. Under A.R.S. 41-3542, the PSCC is responsible for the development of a standard based system that provides interoperability of public safety agencies' communications statewide.

As outlined in Arizona's Statewide Communications Interoperability Plan (SCIP), Arizona's strategy for improving interoperable communications by leveraging existing assets, agreements, and funding sources is to pursue a system-of-systems approach to interoperable communications that leverages connections between separate local, regional, and/or state operated systems for public safety emergency response communications.

All mobile and portable radio equipment purchased through Homeland Security grants or other federal grant sources are required to meet or exceed certain standards<sup>1</sup>. In addition, agencies with an ongoing need to interoperate with federal agencies should meet these standards regardless of the funding source used to purchase the equipment.

## 1.2 Purpose

The purpose of this document is to establish land mobile radio equipment standards that, if followed, will facilitate interoperability between jurisdictions and disciplines at all levels of government. It is recommended that all mobile and portable radio equipment purchased for the purposes of public safety emergency response communications meet or exceed these minimum standards.

## 1.3 Definitions

- Hz: Hertz, the unit of frequency in the International System of Units (SI). It is defined as the number of cycles per second of a periodic phenomenon.
- kHz: Kilohertz, one thousand Hertz
- MHz: Megahertz, one million Hertz
- Multiband Radio: In telecommunications, a multi-band device is a communication device that supports multiple radio frequency bands.
- Narrowband Capable: A radio that can operate on 12.5 kHz channels spacing

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<sup>1</sup><http://www.safecomprogram.gov/library/lists/library/DispForm.aspx?ID=334>

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- POC: Point of Contact
- Project 25 (P25 or APCO-25): A suite of standards for digital radio communications for use by federal, state/province and local public safety agencies in North America to enable them to communicate with other agencies and mutual aid response teams in emergencies.
- PSCC: The Public Safety Communications Advisory Commission provides recommendations to the PSIC Office on the development of standards based systems providing interoperability for public safety agencies' communications statewide.
- PSIC: The Public Safety Interoperable Communications Office is responsible for advancing interoperable communications in Arizona and supporting the PSCC and the SIEC in the performance of their missions.
- Radio frequency band: a group of radio frequencies containing many channels. A segment of radio spectrum.
- SIEC: The Statewide Interoperability Executive Committee is the sub-committee of the PSCC responsible for technical and operational recommendations to the PSCC. The SIEC manages the interoperability portions of the 700 MHz, UHF and VHF spectrums, and has operational oversight of AIRS.
- SOP: Standard Operating Procedure
- UHF: Ultra High Frequency
- VHF: Very High Frequency

### 1.4 References

This document references A.R.S. 41-3542, available online at: <http://aset.azdoa.gov/content/ars-41-3542>.

This document references the Responder Knowledge Base (RKB) available online at: <https://www.rkb.us/search.cfm?typeid=2>.

This document references the Office of Interoperability and Compatibility (OIC) guidelines, available online at: [http://www.pscr.gov/outreach/safecom/grant\\_guidance/grant\\_charts.php](http://www.pscr.gov/outreach/safecom/grant_guidance/grant_charts.php).

### 1.5 Administration

Arizona's Public Safety Interoperable Communications (PSIC) Office, with guidance from the Statewide Interoperability Executive Committee (SIEC) and the Public Safety Communications Advisory Commission (PSCC), is responsible for administering this procedure.

### 1.6 Document Terminology

The terms "shall," "must," "will," and "required" are used throughout this document to indicate required parameters and to differentiate from recommended parameters. Recommendations are identified by the words "should," "desirably" and "preferably."

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### 1.7 Updates & Revisions

This document will be reviewed annually and updated as needed. Those wishing to suggest revisions or additions to this document should send their feedback electronically to [psic@azpsic.gov](mailto:psic@azpsic.gov) or in writing to the PSIC Office, c/o Arizona Strategic Enterprise Technology (ASET) Office at 100 N 15<sup>th</sup> Avenue, Suite 400, Phoenix, AZ 85007.

Revisions to this document will be reviewed by the Technical and Operational Workgroup, which will recommend appropriate changes to the SIEC. The SIEC must then approve all such changes and submit them for approval to the PSCC. Revised versions of this document will be effective once approved by the PSCC.

If no revisions are required, the “last reviewed” date will be updated and no other changes will be made.

## Land Mobile Radio Minimum Equipment Standard

### 2 Standard

The following standards implement certain radio features, nationally recognized to promote and maintain a higher level of interoperable communications among and between public safety jurisdictions and disciplines.

**Table 1: Mobile - Portables Minimum Standard**

| <b>BAND</b>          | <b>MINIMUM CHANNEL</b> | <b>CHANNEL DISPLAY</b> | <b>FREQUENCY RANGE</b>         | <b>NARROWBAND CAPABLE</b> | <b>PROJECT 25<sup>2,3</sup></b> |
|----------------------|------------------------|------------------------|--------------------------------|---------------------------|---------------------------------|
| VHF                  | 48 CH OR GREATER       | 7 CHAR OR GREATER      | 150 – 174 MHz                  | REQUIRED                  | CAPABLE                         |
| UHF                  | 48 CH OR GREATER       | 8 CHAR OR GREATER      | 450 – 470 MHz                  | REQUIRED                  | CAPABLE                         |
| 700 MHz <sup>4</sup> | 48 CH OR GREATER       | 8 CHAR OR GREATER      | 769 – 775 MHz<br>799 – 805 MHz | REQUIRED                  | REQUIRED                        |
| 800 MHz <sup>4</sup> | 48 CH OR GREATER       | 8 CHAR OR GREATER      | 806 – 824 MHz<br>851 – 869 MHz | REQUIRED                  | REQUIRED                        |
| Multi-Band           | 48 CH OR GREATER       | 8 CHAR OR GREATER      | Variable                       | REQUIRED                  | REQUIRED*                       |

\*Note: Multi-Band radios without 700/800 MHz frequency bands only need to be P25 capable.

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<sup>2</sup>Refer to the Responder Knowledge Base (RKB) to identify equipment that is certified by the P25 Compliance Assessment Program (P25 CAP). For more information, see: <https://www.rkb.us/search.cfm?typeid=2>

<sup>3</sup>Refer to the Office of Interoperability and Compatibility (OIC) guidelines at the Public Safety Communications Research Program (PSCR) web-site:  
[http://www.pscr.gov/outreach/archive/safecom\\_archive/grant\\_guidance/grant\\_charts.php](http://www.pscr.gov/outreach/archive/safecom_archive/grant_guidance/grant_charts.php)

<sup>4</sup>Contact the ARRC or RPC (Region 3) to assure the availability and management of frequencies.